

CLAIMS:

It is claimed:

1. A process for treating methane-containing natural gas which
5 comprises: i) converting said methane to methanol at or near a site of natural gas
production; ii) transporting said methanol to a refinery remote from said site of
production, said refinery producing ethylene and propylene and comprising an
alkylation unit; and iii) converting said methanol to gasoline boiling range fuel
10 product and at least one petrochemical selected from the group consisting of
ethylene, propylene, butenes and xylenes.
2. The process of claims 1 wherein said alkylation unit utilizes a
propylene feed.
- 15 3. The process of claim 2 which further comprises substituting said
butenes for at least some of said propylene feed in said alkylation unit to provide
gasoline boiling range fuel product.
4. The process of claim 3 which further comprises collecting
20 individual streams of said ethylene, propylene, and gasoline boiling range fuel
product.
5. The process of claim 3 which further comprises collecting a C₄+
gasoline boiling range product stream containing less than 10 ppm sulfur.
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6. The process of claim 5 which further comprises blending said C₄+
gasoline boiling range product stream with a second gasoline boiling range
product stream which contains at least 10 ppm sulfur to provide a gasoline boiling
range product stream having a reduced sulfur content compared to said second
30 gasoline boiling range product stream.

7. The process of claim 1 wherein said converting of methane is carried out by a method selected from the group consisting of steam methane reforming, partial oxidation, gasification, combined reforming and autothermal reforming.

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8. The process of claim 1 wherein said converting of methane is carried out by steam methane reforming.

9. The process of claim 1 wherein said converting of methanol is carried out by a method selected from the group consisting of methanol to gasoline, methanol to olefin, and methanol to chemicals with an aromatic co-feed.

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10. The process of claim 1 wherein said converting of methanol is carried out by a methanol to olefin process using an aromatic co-feed.

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11. The process of claim 1 wherein said converting of methanol is carried out in the presence of a shape-selective crystalline silicate catalyst selected from the group consisting of ZSM-5, ZSM-11, ZSM-12, ZSM-23, ZSM-35, ZSM-48, MCM-22, SAPO-18, and SAPO-34.

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12. The process of claim 1 wherein said converting of methanol is carried out in the presence of a shape-selective ZSM-5 crystalline silicate catalyst.

13. The process of claim 1 wherein said converting of methanol is carried out in the presence of a SAPO-34 crystalline silicate catalyst.

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14. The process of claim 1 wherein said converting of methanol is carried out in the presence of a SAPO-18 crystalline silicate catalyst.

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15. A process for treating methane-containing natural gas which comprises: i) converting said methane to methanol at or near plural sites of natural gas production; ii) transporting said methanol from said plural sites to a single

refinery remote from said sites of production, said refinery producing ethylene and propylene and comprising an alkylation unit; and iii) converting said methanol to gasoline boiling range fuel product and at least one petrochemical selected from the group consisting of ethylene, propylene, butenes and xylenes.

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16. The process of claims 15 wherein said alkylation unit utilizes a propylene feed.

10 17. The process of claim 16 which further comprises substituting said butenes for at least some of said propylene feed in said alkylation unit to provide gasoline boiling range fuel product.

15 18. The process of claim 17 which further comprises collecting individual streams of said ethylene, propylene, and gasoline boiling range fuel product.

19. The process of claim 17 which further comprises collecting a C₄+ gasoline boiling range product stream containing less than 10 ppm sulfur.

20 20. The process of claim 17 which further comprises blending said C₄+ gasoline boiling range product stream with a second gasoline boiling range product stream which contains at least 10 ppm sulfur to provide a gasoline boiling range product stream having a reduced sulfur content compared to said second gasoline boiling range product stream.